



# SPYWOLF

## Security Audit Report



Completed on  
**August 12, 2023**

@SPYWOLFNETWORK



@SPYWOLFNETWORK



SPYWOLF.CO





# OVERVIEW

This audit has been prepared for **Carol Protocol** to review the main aspects of the project to help investors make an informative decision during their research process.

You will find a summarized review of the following key points:

- ✓ Contract's source code
- ✓ Owners' wallets
- ✓ Tokenomics
- ✓ Team transparency and goals
- ✓ Website's age, code, security and UX
- ✓ Whitepaper and roadmap
- ✓ Social media & online presence

“

*The results of this audit are purely based on the team's evaluation and does not guarantee nor reflect the projects outcome and goal*

- SPYWOLF Team -

”





# TABLE OF CONTENTS

---

Project Description	01
Contract 1 Information & Stats	02-06
Contract 2 Information & Stats	07-10
Tokenomics	11
Team Information	12
Website Analysis	13
Social Media & Online Presence	14
About SPYWOLF	15
Disclaimer	16



# Carol Protocol



## PROJECT DESCRIPTION

### **According to their documentation:**

CAROL is utilized in bonding mechanisms, allowing participants to lock their funds for a specific period in exchange for potential earnings and participation in protocol governance.

The CAROL token serves as a key component in liquidity pools, facilitating exchanges and creating sustainable market conditions for all participants. It serves as a central element within the network, providing unique opportunities for participation in bonding and liquidity provision.

**Release Date:** Lunches August, 2023

**Category:** ROI protocol

01



# CONTRACT 1 INFO

Token Name N/A	Symbol N/A
Contract Address 0x7ed834b7bd8429368681DA8e1FEf190bf9059Da4	
Network Base	Language Solidity
Deployment Date Aug 11, 2023	Verified? Yes
Total Supply N/A	Status Launched

## TAXES



## Our Contract Review Process

The contract review process pays special attention to the following:

- ✓ Testing the smart contracts against both common and uncommon vulnerabilities
- ✓ Assessing the codebase to ensure compliance with current best practices and industry standards.
- ✓ Ensuring contract logic meets the specifications and intentions of the client.
- ✓ Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders.
- ✓ Thorough line-by-line manual review of the entire codebase by industry experts.

### Blockchain security tools used:

- OpenZeppelin
- Mythril
- Solidity Compiler
- Hardhat



## TOKEN TRANSFERS STATS

Transfer Count	N/A
Uniq Senders	N/A
Uniq Receivers	N/A
Total Amount	N/A
Median Transfer Amount	N/A
Average Transfer Amount	N/A
First transfer date	N/A
Last transfer date	N/A
Days token transferred	N/A

## SMART CONTRACT STATS

Calls Count	2
External calls	1
Internal calls	2
Transactions count	2
Uniq Callers	2
Days contract called	2
Last transaction time	Aug-12-2023 06:50:13 AM +UTC
Created	Aug-11-2023 07:54:27 PM +UTC
Create TX	0xd941fe86c9f6c7e4653a297706eef0f08cca56377297d0494edd3924f75ff861
Creator	0xf993ac8c118e3cc16a8c37accfdd442b2fd6666



# VULNERABILITY CHECK

Design Logic	Passed
Compiler warnings.	Passed
Private user data leaks	Passed
Timestamp dependence	Passed
Integer overflow and underflow	Passed
Race conditions and reentrancy. Cross-function race conditions	Passed
Possible delays in data delivery	Passed
Oracle calls	Passed
Front running	Passed
DoS with Revert	Passed
DoS with block gas limit	Passed
Methods execution permissions	Passed
Economy model	Passed
Impact of the exchange rate on the logic	Passed
Malicious Event log	Passed
Scoping and declarations	Passed
Uninitialized storage pointers	Passed
Arithmetic accuracy	Passed
Cross-function race conditions	Passed
Safe Zeppelin module	Passed
Fallback function security	Passed



# THREAT LEVELS

When performing smart contract audits, our specialists look for known vulnerabilities as well as logical and access control issues within the code. The exploitation of these issues by malicious actors may cause serious financial damage to projects that failed to get an audit in time. We categorize these vulnerabilities by the following levels:

## High Risk

---

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

## Medium Risk

---

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

## Low Risk

---

Issues on this level are minor details and warning that can remain unfixed.

## Informational

---

Information level is to offer suggestions for improvement of efficacy or security for features with a risk free factor.





# FOUND THREATS

## ⚠ High Risk

Owner can issue new bonds for free.  
This can lead to liquidity drain.

```
function influencerBond(address userAddr, uint256 tokensAmount) external onlyOwner {
    require(users[userAddr].bondsNumber < Constants.BONDS_LIMIT, "User have reached bonds limit");
    require(IERC20(TOKEN_ADDRESS).balanceOf(address(this)) >= tokensAmount, "Insufficient token balance");

    users[userAddr].balance+= tokensAmount * 5 / 100;
    uint256 ethAmount = getETHAmount(tokensAmount * 95 / 100);
    uint8 bondIdx = newBond(userAddr, 4, ethAmount, 0);

    CAROLToken(TOKEN_ADDRESS).burn(tokensAmount);

    emit Events.NewBond(
        userAddr, 4, bondIdx, ethAmount, tokensAmount * 95 / 100, false, block.timestamp
    );
}
```

- Recommendation:
  - No one should be able to issue new bonds for free.



## Informational

Owner can activate/deactivate bond types.  
Every bond type have different ROI and freeze periods.

```
function activateBondType(uint8 bondType) external onlyOwner {
    require(bondType > 0 && bondType < 4, "Invalid bond type");
    BOND_ACTIVATIONS[bondType] = true;
}

function deactivateBondType(uint8 bondType) external onlyOwner {
    require(bondType > 0 && bondType < 4, "Invalid bond type");
    BOND_ACTIVATIONS[bondType] = false;
}

bool[5] public BOND_ACTIVATIONS = [
    true,
    false,
    false,
    false,
    false
];

uint256[5] public BOND_FREEZE_PERIODS = [
    30 days,
    20 days,
    10 days,
    5 days,
    100 days
];

uint256[5] public BOND_FREEZE_PERCENTS = [
    5000,
    3200,
    1600,
    800,
    0
];
```



## Informational

When users set address they buy with for referral or address(0) or address that is not participating in the project yet (address with 0 bonds), the user becomes referral to default address assigned by project owner.

Referral rewards can go from 5% up to 20% from user's deposited value based on how many total funds users collected from previous referrals.

```
function buy(address upline, uint8 bondType) external payable {
    .....
    bool isNewUser = false;
    Models.User storage user = users[msg.sender];
    if (user.upline == address(0)) {
        isNewUser = true;
        if (upline == address(0) || upline == msg.sender || users[upline].bondsNumber == 0) {
            upline = DEFAULT_UPLINE;
        }
        user.upline = upline;

        if (upline != DEFAULT_UPLINE) {
            users[upline].referrals.push(msg.sender);
        }

        emit Events.NewUser(
            msg.sender, upline, block.timestamp
        );
    }
    .....
}
```



## Informational

There is 10% fee for bonds buy/staking that goes to the project's owner.

```
function buy(address upline, uint8 bondType) external payable {  
    .....  
    uint256 adminFee = msg.value / 10;  
    payable(owner()).transfer(adminFee);  
    .....  
}  
  
function stake(uint8 bondIdx) external payable {  
    .....  
    uint256 adminFee = msg.value / 10;  
    payable(owner()).transfer(adminFee);  
    .....  
}
```



RECOMMENDATIONS FOR

# GOOD PRACTICES

---

1

Consider fundamental tradeoffs

2

Be attentive to blockchain properties

3

Ensure careful rollouts

4

Keep contracts simple

5

Stay up to date and track development

## Carol

GOOD PRACTICES FOUND

- ✓ The owner cannot set a transaction limit

# CONTRACT 2 INFO

Token Name CAROL	Symbol CAROL
Contract Address 0x093226Fd937760D13D120B15b028867CCda09bFe	
Network Base	Language Solidity
Deployment Date Aug 11, 2023	Verified? Yes
Total Supply 1,000,070	Status Launched

## TAXES

Buy Tax  
**N/A**

Sell Tax  
**N/A**



## Our Contract Review Process

The contract review process pays special attention to the following:

- ✓ Testing the smart contracts against both common and uncommon vulnerabilities
- ✓ Assessing the codebase to ensure compliance with current best practices and industry standards.
- ✓ Ensuring contract logic meets the specifications and intentions of the client.
- ✓ Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders.
- ✓ Thorough line-by-line manual review of the entire codebase by industry experts.

### Blockchain security tools used:

- OpenZeppelin
- Mythril
- Solidity Compiler
- Hardhat



## Informational

Owner can enable/disable token buys.

```
function unlockBuy() external onlyOwner {
    buyLocked = false;
}

function lockBuy() external onlyOwner {
    buyLocked = true;
}

function _beforeTokenTransfer(address from, address to, uint256 ) internal view override {
    if (LP_TOKEN_ADDRESS == address(0) || !buyLocked) {
        return;
    }

    if (from == LP_TOKEN_ADDRESS || from == UNISWAP_ROUTER_ADDRESS) {
        require(
            to == mainContractAddress
            || to == UNISWAP_ROUTER_ADDRESS
            || to == LP_TOKEN_ADDRESS
            || to == address(0),
            "Transfer: only main contract can buy tokens"
        );
    }
}
```



RECOMMENDATIONS FOR

# GOOD PRACTICES

---

1

Consider fundamental tradeoffs

2

Be attentive to blockchain properties

3

Ensure careful rollouts

4

Keep contracts simple

5

Stay up to date and track development

## Carol

GOOD PRACTICES FOUND

- ✓ The owner cannot set a transaction limit





This is \*ROI staking dapp with referral system that allows users to get up to 20% from each referral. When users choose to stake their capital (bonds/liquidity) they can earn up to 200% of their initial investment over time.

More information can be found in the project's documents page:

<https://carol-8.gitbook.io/documentation/description-of-the-carol-token/bonding-and-liquidity-provision-mechanisms>

**ROI dapps are considered as high risk and can cause significant losses of capital.**

**\*DYOR before investing in any.**

*\*ROI - Return Of Investment*

*\*DYOR - Do Your Own Research*

TOKENOMICS



# THE TEAM

! The team is anonymous

## KYC INFORMATION

### No KYC

We recommend the team to get a KYC in order to ensure trust and transparency within the community.





Website URL

https://carol.finance/

Domain Registry

https://www.namecheap.com/

Domain Expiration

2024-08-04

Technical SEO Test

Passed

Security Test

Passed. SSL certificate present

Design

Very nice appearance with appropriate color scheme and graphics.

Content

The information helps new investors understand what the product does right away. No grammar mistakes found.

Whitepaper

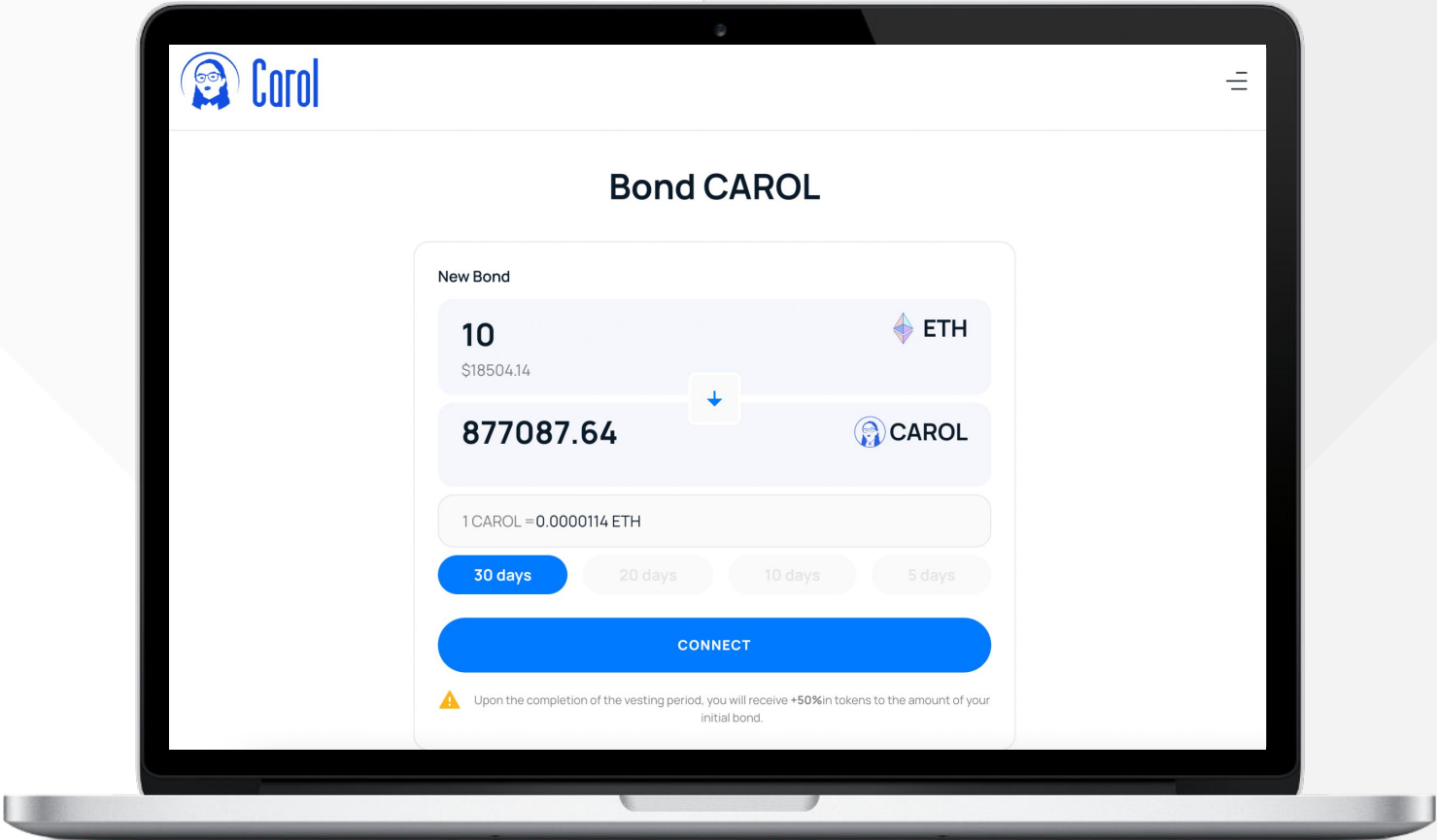
Well written, explanatory.

Roadmap

No

Mobile-friendly?

Yes



carol.finance

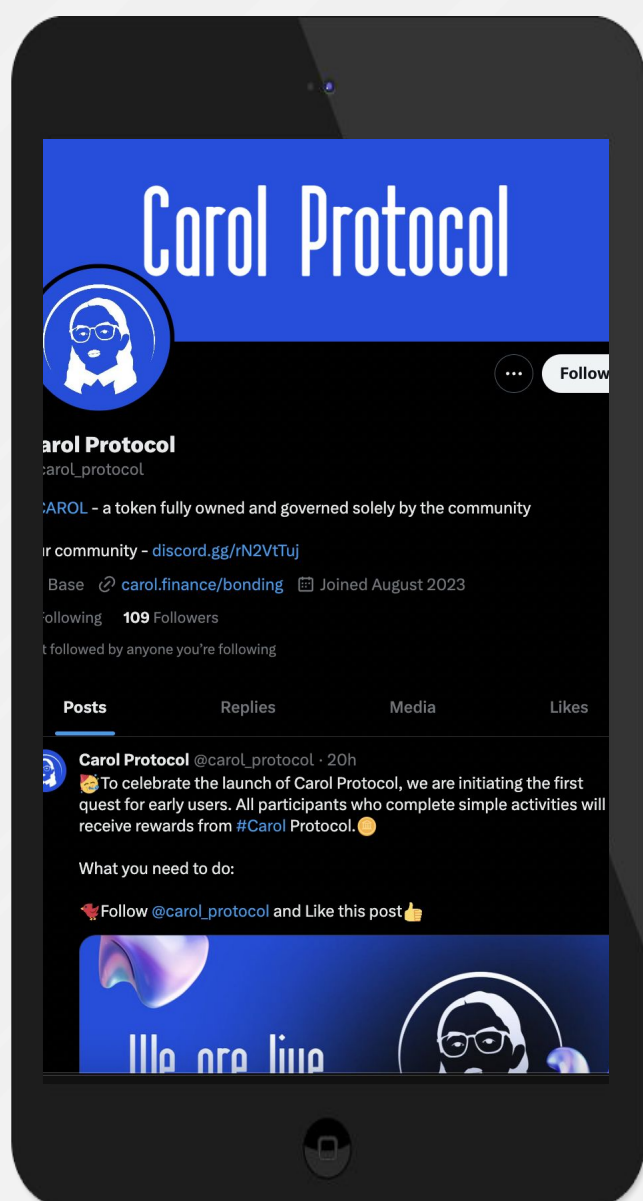


# SOCIAL MEDIA & ONLINE PRESENCE



## ANALYSIS

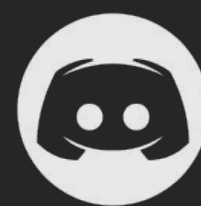
Project's social media pages are new.



### Twitter

@carol\_protocol

- 100 followers
- 4 total posts
- Active



### Discord

<https://discord.com/invite/rN2VtTuj>

- 4 members



### Telegram

@CAROL\_protocol\_group

- 1 180 members
- No active members
- No active mods



### Medium

- Not available



# SPYWOLF

## CRYPTO SECURITY

Audits | KYCs | dApps  
Contract Development

# ABOUT US

We are a growing crypto security agency offering audits, KYCs and consulting services for some of the top names in the crypto industry.

- ✓ OVER 500 SUCCESSFUL CLIENTS
- ✓ MORE THAN 500 SCAMS EXPOSED
- ✓ MILLIONS SAVED IN POTENTIAL FRAUD
- ✓ PARTNERSHIPS WITH TOP LAUNCHPADS, INFLUENCERS AND CRYPTO PROJECTS
- ✓ CONSTANTLY BUILDING TOOLS TO HELP INVESTORS DO BETTER RESEARCH

To hire us, reach out to  
[contact@spywolf.co](mailto:contact@spywolf.co) or  
[t.me/joe\\_SpyWolf](https://t.me/joe_SpyWolf)

## FIND US ONLINE



[SPYWOLF.CO](https://spywolf.co)



[@SPYWOLFNETWORK](https://t.me/SPYWOLFNETWORK)



[@SPYWOLFNETWORK](https://twitter.com/SPYWOLFNETWORK)



# Disclaimer

This report shows findings based on our limited project analysis, following good industry practice from the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, overall social media and website presence and team transparency details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report.

While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

## **DISCLAIMER:**

By reading this report or any part of it, you agree to the terms of this disclaimer. If you do not agree to the terms, then please immediately cease reading this report, and delete and destroy any and all copies of this report downloaded and/or printed by you. This report is provided for information purposes only and on a non-reliance basis, and does not constitute investment advice.

No one shall have any right to rely on the report or its contents, and SpyWolf and its affiliates (including holding companies, shareholders, subsidiaries, employees, directors, officers and other representatives) (SpyWolf) owe no duty of care towards you or any other person, nor does SpyWolf make any warranty or representation to any person on the accuracy or completeness of the report.

The report is provided "as is", without any conditions, warranties or other terms of any kind except as set out in this disclaimer, and SpyWolf hereby excludes all representations, warranties, conditions and other terms (including, without limitation, the warranties implied by law of satisfactory quality, fitness for purpose and the use of reasonable care and skill) which, but for this clause, might have effect in relation to the report. Except and only to the extent that it is prohibited by law, SpyWolf hereby excludes all liability and responsibility, and neither you nor any other person shall have any claim against SpyWolf, for any amount or kind of loss or damage that may result to you or any other person (including without limitation, any direct, indirect, special, punitive, consequential or pure economic loss or damages, or any loss of income, profits, goodwill, data, contracts, use of money, or business interruption, and whether in delict, tort (including without limitation negligence), contract, breach of statutory duty, misrepresentation (whether innocent or negligent) or otherwise under any claim of any nature whatsoever in any jurisdiction) in any way arising from or connected with this report and the use, inability to use or the results of use of this report, and any reliance on this report. The analysis of the security is purely based on the smart contracts, website, social media and team.

No applications were reviewed for security. No product code has been reviewed.